

NEW DESCRIPTIONS

A NEW SPECIES OF GENUS *GLYPTOTENDIPES* KIEFFER (DIPTERA : CHIRONOMIDAE) FROM INDIA¹

T.K. DUTTA AND P.K. CHAUDHURI²
(With six text-figures)

Kieffer (1913) erected *Glyptotendipes* as a genus in the family Chironomidae with *G. sigillatus* as its type which was described later by Kieffer (1922). Various chironomidologists of the past considered it as one of the subgenera of *Chironomus* Meigen but it is now recognised as a full genus in the family. The genus is least represented from the Afrotropics, Micronesia, Australia and Oceania regions. In India, four species, *barbipes* (Staeger), *melanostolus* (Kieffer), *oriplanus* (Kieffer) and *verrucosus* (Kieffer) were recognised before this investigation. In this paper, one new species of the genus, *Glyptotendipes pilosus* is described from the duars of the Himalayas of West Bengal. Terminologies and usages followed in this paper are after Saether (1980) and Chaudhuri and Chattopadhyay (1990).

Glyptotendipes pilosus sp. nov.

MALE: Body length 3.86 (3.64-3.89, n=10), wing length 2.01 (1.80-2.01, n=10) and wing breadth 0.58 (0.56-0.63, n=10). [Measurements in millimeter (mm)].

Head: Vertex with 20-22 IV 4, OV 16-18 and PO 0 setae. Corona with 7-8 setae. Clypeus with 15-16 long setae, clypeal ratio 0.85. Maxillary palp light brown, length ratio of palpomeres I-V 10: 13: 35: 26: 28, L/W ratio 4.37. Eyes reniform with a dorsal extension of 0.11. Antenna dark brown, length ratio of flagellomeres I-XI 6: 7: 7: 6: 6: 6: 7: 7: 192, AR 2.95; CA 0.66; CP 1.60.

Thorax: Dark brown, Antepnotum wide at the base with a median narrow "V" shaped emargination, antepnotal 0; mesonotum with 3

dark vittae, acrostichals 2-3, dorsocentrals 8-10, humeral 0, prealars 4 and scutellars 6 in transverse row, postnotum dark brown and bare.

Wing (Fig. 1) hyaline with coarse microtrichia. Brachiolum with 2 setae and 15-16 sensilla companiformia; 18, R1, 15-16 and R+5 with 20-22 setae. RM little proximal to FCu, An ends just below FCu. Squama fringed with 10-12 setae. Haltere light brown and bare. CR 1.01; VR 1.06.

Legs: Femora and tibia of all legs yellow, fore tibia dark brown and tarsomeres of all legs dark brown. Fore tibia with a blunt scale (Fig. 2) bearing 4 apical setae. Spurs of mid tibia equal 0.027 long, ratio of spurs to the apical diameter of mid tibia 9:8; spurs of hind tibia unequal 0.021 and 0.015 long, ratio of length of spurs to the apical diameter of hind tibia 7:13 and 5:13.

Abdomen yellow with more or less dense scattered setae. Tergites II-VIII each with a characteristic mid dorsal horse-shoe shaped or racket like impression. Hypopygium (Fig. 3) with long tubular anal point 0.039 long having 4 setae at each basal margin. Gonocoxite massive more or less conical, with 14-15 strong setae over it; gonostylus also massive strongly pubescent and attenuated near the apex with 5 minute setae at its inner apical margin. Superior volsella (Fig. 4) digitiform hooked inward at its apex and without setae beyond the base; inferior volsella stout, long with numerous incurved apical setae. Transverse sternapodeme 0.045, lateral sternapodeme 0.078, coxapodeme 0.03 and phallapodeme 0.054 long. HR 0.71, HV 3.45.

FEMALE: Body length 4.14 (3.92-4.38, n=4), wing length 2.04 (1.98-2.12, n=4) and wing breadth 0.63 (0.62-0.66, n=4).

Similar to male with usual sex differences. Antenna (Fig. 5) light brown, flagellomeres II-IV long necked flask like, length ratio of flagellomeres

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²Dept. of Zoology, University of Burdwan, Burdwan 713 104, West Bengal (India).

I-V 9 : 9 : 8 : 7 : 12, AR 0.36. Genitalia (Fig. 6): Notum 0.85 long. Gonocoxapodeme VIII blunt or pouch like. Coxosternapodeme stout well developed and more or less bowed. Gonapophysis VIII divided into a broad shallow dorsomesal lobe and a stout leaf-like ventrolateral lobe, apodeme lobe weak and bent. Postgenital plate relatively small and narrowed down to assume a V-shape. Seminal capsule

more or less equal, oval 0.99 long by 0.051 wide, ducts of capsule without loop opening into the vagina by a single aperture. Cerci well developed and finely setose.

Holotype Male (Type no. 209, B.U. Ent.), Birpara, West Bengal, 15. ix. 1985, Coll. T.K. Dutta. *Allotype* Female, data same as holotype. *Paratypes* 4 males and 3 females, Birpara, 15.x.1986, Coll. T.K. Dutta; 3 males, Jalpaiguri,

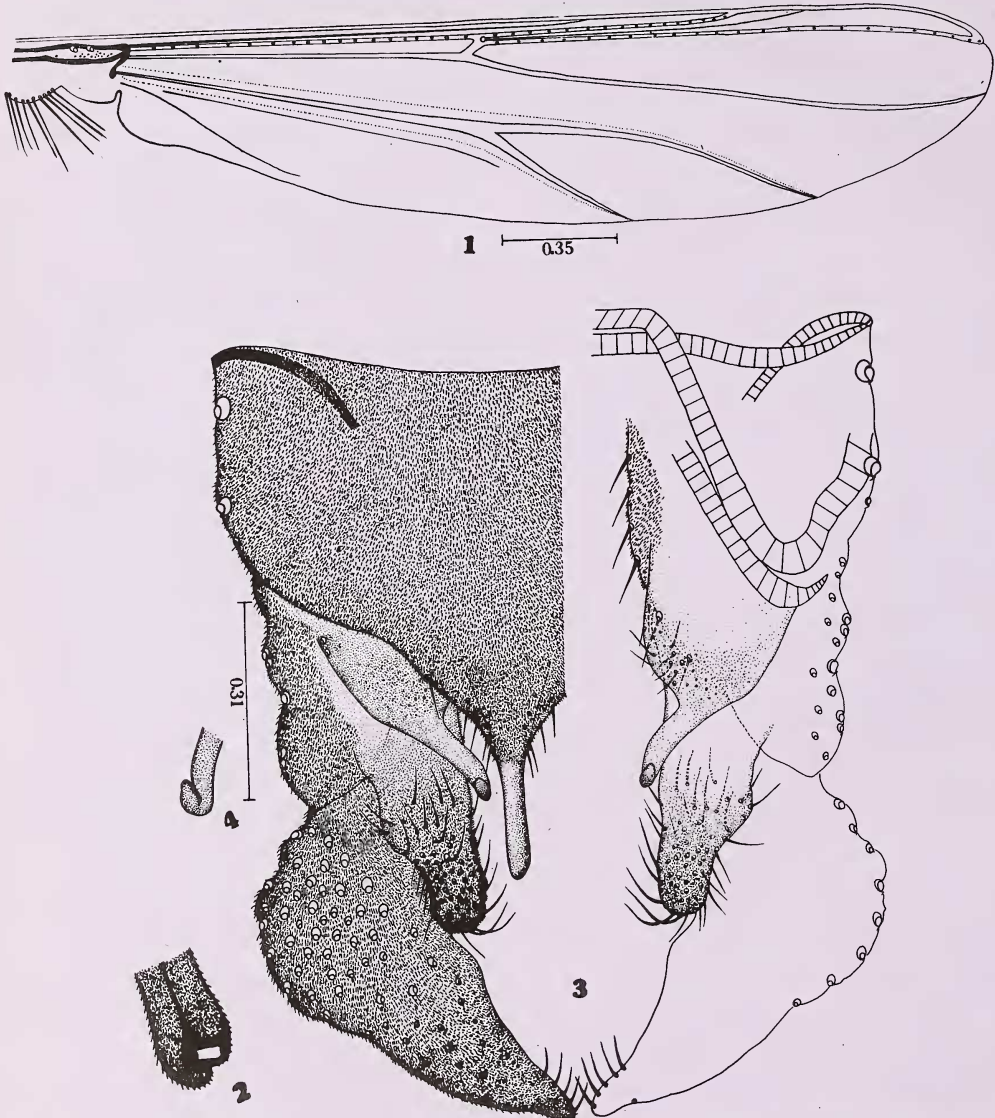
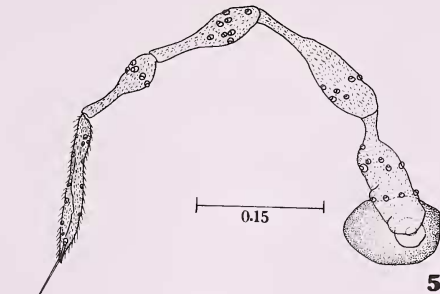


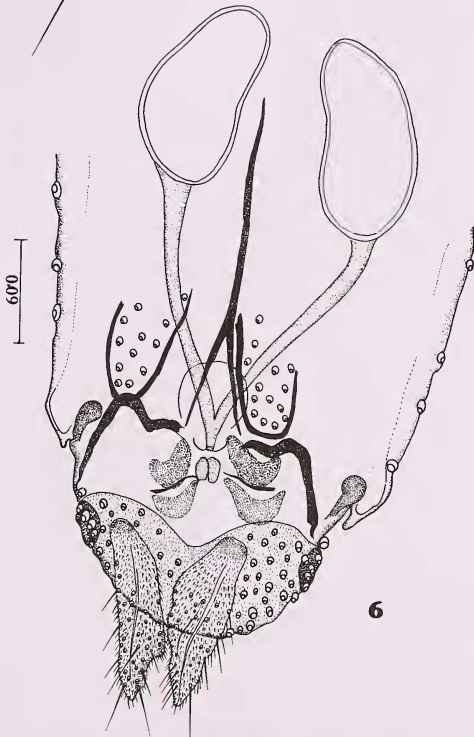
Fig. 1-4. *Gytotendipes pilosus* sp. nov.: 1. Wing; 2. Fore tibial scale; 3. Hypopygium; 4. Superior volsella of male.

PROPORTION AND RATIO OF LEG-SEGMENTS

	Fe	Ti	ta ₁	ta ₂	ta ₃	ta ₄	ta ₅	LR	BV	SV	BR
Fore	62	49	38	18	15	10	77	0.77	2.98	3.46	1.75
Mid	60	52	34	16	10	9	7	0.65	3.47	4.30	3.75
Hind	65	70	52	27	22	11	9	0.74	2.71	3.21	1.80



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Figs. 5-6. *Glyptotendipes pilosus* sp. nov.
5. Antenna and 6. Genitalia of female.

West Bengal, 12.vi.1984, Coll. P.K. Chaudhuri; 4 males, Madarihath, West Bengal, 14. iii.1988, Coll. T.K. Dutta. All are kept in the collections of insects at the Department of Zoology, University of Burdwan and will be deposited to suitable depositors shortly.

Remarks: In view of the hairy style, the species is named as *Glyptotendipes pilosus*. It appears to be very similar to *G. tokunagi* (Sasa 1979) in respect of gonocoxite, gonostylus, superior and inferior volsella but differs from it in colour pattern of abdomen and fore legs and apical expansion of the anal point. The species also resembles *G. pallens* (Meigen) and *G. seminole* Townes (1945) in superior and inferior volsella of male hypopygium. The following combination of characters segregate the new species from previously described species of *Glyptotendipes* Kieffer: i) scutellars 6 small in transverse row, ii) abdomen yellow and densely setose, iii) long tubular anal point, iv) gonostylus stout, strongly pubescent and attenuated near apex, v) superior volsella digitiform, apically curved and bare, vi) inferior volsella stout, elongate with profuse long, curved apical setae and vii) female genitalia with weak apodeme lobe, V-shaped postgenital plate and two approximately oval and equal seminal capsules.

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MAPANIA ARUNACHALENSIS — A NEW SPECIES OF CYPERACEAE FROM ARUNACHAL PRADESH, INDIA¹

G. D. PAL²

(With a text-figure)

A new species of the genus *Mapania* Aubl. (Cyperaceae) is described with illustrations. A tabulated key for the allied species is also provided.

Mapania arunachalensis sp. nov.

M. kurzii Clarke proxime affinis, sed scapis sparsim strigosis ad apicem, bracteolis cum striationibus plus quam 15, bracteisque majoribus triangularibus vel ovato-oblongis, distinguenda.

Typus: Holotypus lectus a G.D. Pal ad locum Arunachal, Inferior Subansiri district, Itanagar c. 400 m, dia 27.3.1979, sub-numero 72507, et positus in CAL. Isotypus positus in ARUN.

Erect, rhizomatous perennial herbs, 1-1.75 m high. *Rhizomes:* 2.5 cm long, 0.5-1 cm across, partly covered with stiff, imbricate scales; scales broadly ovate, 2-5 x 1.5-3.5 mm, deep brown. *Stems:* stout, cylindric, 1.5-3 cm long and 1-1.5 cm across, enclosed by the cauline leaves. *Scaly leaves:* lowermost broadly ovate to ovate-orbicular, 0.8-2.5 x 0.6-2 cm, margin scariosus; upper ones ovate-lanceolate, keeled, 4-12 x 2-3 cm, gradually tapering to the stiff apex, margin scariosus, turn greyish-brown on drying. *Leaves:* densely equitant, linear, (125-)150-175 (-200) x (2-) 2.2-2.8 (-3) cm, prominently keeled; apex long attenuate, flagellate and distinctly trigonous; margin subentire to

distantly serrulate towards base, closely denticulate upward, teeth strong, recurved; midrib finely channelled above, distinctly raised beneath, closely or distantly sharp spinescent as those of margins; venetion parallel, more or less prominent; subcoriaceous, scabrous, whitish hairs along margin towards apex, dull green to pale brown on drying. *Inflorescence:* scape solitary, lateral, 25-40 cm long, longitudinally ribbed and furrowed, terete or slightly compressed with more or less dilated, trigonous, strigose apices, about one-third length at base covered with 8-12 equitant scales; lower scales suborbicular to broadly ovate, (0.5-) 1-2 (-2.5) x (0.4-) 1-1.5 (-1.8) cm, apex acute, incurved; upper scales ovate-oblong, 4-6.5 x 1.8-2.2 cm, apex acuminate, incurved, margin scariosus. *Spikes:* 4-6 in compact capitate head, ellipsoid, 1.5-2 cm long, subtended by 4-6 bracts; bracts triangular, ovate-oblong or oblong, 2-2.5 x 1.4-1.8 cm, acute, scabrous, margin scariosus, sometimes lacerate towards bracteoles in 6-8 series, (2-) 3(-4) in each whorl, concave, midrib often keeled, sparsely to densely strigose or glabrous: 1st series oblong, 1.8-2 x 1-1.2 cm, keeled, apex fimbriate; 2nd series oblong, 1.5-1.8 x 0.9-1 cm, midvein prominent but not keeled, sparsely strigose along the midvein, brownish streaks scattered, apex lacerate; 3rd and 4th series broadly-oblong, 1.5 x

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²Botanical Survey of India, Arunachal Field Station, Itanagar 791 111, India.